

Question 4: Outline a current environmental, political, or social issue that requires redesign. Explain how you will solve this issue over the duration of your future design career. Underline the tools and approaches you will use and discuss how and why.

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Sustainable design could be considered to some extent a recently introduced topic, however, a general concern for our environment is not new. Meister Eckhart, a German theologian was one of the first to identify our negative impact on the environment as humans. Already, we understand that sustainable design involves a collection of strategies that include:

Products designed for ease of disassembly and recycling; designing with appropriate materials to ensure a reduction in environmental impact; design that optimizes energy consumption and considers options for alternate sources of power; and design that considers longer lasting products both in terms of their physical and emotional endurance.

(Chapman and Gant, 2007, p.3-4)

Although a number of strategic approaches to sustainable design, production and consumption have been developed and put in place within the last 50 years, it is definitely not fully figured out. Therefore, we must continue to explore these strategies. This essay aims to explore current approaches and research into the development of new strategies within the fashion and textiles industry to combat the climate crisis.

Before delving straight into what is being done already in terms of redesign, it is important to consider the role of a designer and to understand what your principles and beliefs should be as a designer. Jonathan Chapman and Nick Gant in their *Designers, Visionaries and Other Stories: A Collection of Sustainable Design Essays* discuss the question of "So why design anything at all?". A consequence of considering sustainable practices is that it is assumed to just *not* consume, and *not* to have and to just go without. Yes, this would solve the problems, but asking humans to stop consuming is an unrealistic intention and goal, "The designer's job is not to sit there and tell people to stop consuming" (Chapman and Gant, 2007, p.7). Instead, we should be seeking towards redirecting behaviour, towards sustainable alternatives, that being redesign.

Human behaviours should not be seen as the cause of all problems, and the sooner we come to terms with the fact that our desire to consume is not necessarily a fault of our own, the sooner we can progress and move forward for the better. “Sustainable design methodologies that fail to accommodate human desire are useless unless consumers actually embrace them” (Chapman and Gant, 2007, p.7). Here, it is being said that designers can create successful strategies to become more sustainable, but unless the consumers actually engage with these, they are useless.

We have an understanding of the words ‘design’ and ‘activism’ separately, but together they may create an alternative meaning. In his text *Design Activism: Beautiful Strangeness for a Sustainable World*, Alastair Fuad-Luke discusses the term ‘design activism’. It recognises the importance of design as a tool for social and environmental change. He defines a design activist as ‘a person who uses the power of design for the greater good for humankind and nature’ (Fuad-Luke, 2009). From this text you can understand that designers have a major role in being responsible for the future of design in making sure that sustainability is at the forefront of their research. Herbert Simon 1969 stated ‘Everyone designs who devises courses of action aimed at changing existing situations, into preferred ones.’ He is stressing the important contribution design has and can make to contemporary issues affecting environmental stability. (Fuad-Luke, 2009, p. 5)

A manifesto that is important to me as a designer is Dieter Ram’s 10 Principles of Design. The set of principles explores and questions what a good designer is, and the role that they should be having. It makes me question my principles and role as a designer to make sure that my designs have the full potential that they can have, and that my beliefs and morals are where they should be.

Products made by the *Braun* company in the 1950’s and 1960’s are instantly recognisable because they are all designed by Dieter Rams and hold each of his ten principles for good design. Although good design is subjective, Dieter Rams expressed what he believed to be good design in these 10 principles:

1. Good design is innovative
2. Good design makes a product useful
3. Good design is aesthetic
4. Good design makes a product understandable
5. Good design is unobtrusive
6. Good design is honest
7. Good design is long-lasting
8. Good design is thorough down to the last detail
9. Good design is as little as possible
10. Good design is environmentally-friendly

A selection of these I believe relate to the means of sustainable design. In principle 1 *Good design is innovative*, he raises the idea of less is more, but instead how less is better. By focusing on minimalist and simplicity we should be making products more usable.

Rams had a strong interest in making objects that do not look out of date quickly so that they do not get cast aside, this is presented through principle 7, *Good design is long-lasting*. Rams has never been able to relate to the modern ages' throwaway society so he would avoid making a product fashionable, therefore it never appears outdated. Unlike fashionable design, it is long lasting. Although within surface pattern design, fashion and textiles we have to adhere to current trends, which are always changing so it makes it difficult to create 'long-lasting' designs. We must do our best to produce things that are always going to be desirable, or at least for as long as possible so that they are not short lived. This is very important to me and my studies.

(Mont, 2002) argues that manufacturers can move the focus of their operations from exchange value to use value, which will offer opportunities to increase the intrinsic product quality and durability. Therefore, manufacturers can provide a longer life span of the product and resulting in a more enjoyable use experience for consumers. A 'slow fashion' approach aims to prolong an item's lifetime and therefore increasing product satisfaction, completely removing the principles of fast fashion (Fletcher, 2014).

8, *Good design is thorough down to the last detail*. He is saying that there should be care in what is made. That care for others is what designers value and should be their role as a designer to make sure care and accuracy is used in the design process, it shows respect to the user. Care is what is lost in mass production so it makes the value of the item decrease, properly produced items are much more desired over mass produced, down to reasons such as the quality, the fact they are not 'one offs' and how they have such shorter life spans. This links into Ram's seventh principle, good design should be long-lasting.

In chapter 6 '*Clothes That Connect*' by Kate Fletcher, in Jonathan Chapman and Nick Gant's *Designers, Visionaries and Other Stories* she lists a few fibre types that we should be using, including "natural materials like organic wool and cotton, hemp, wild silk and natural 'linen' bamboo; biodegradable synthetics like corn starch and soya bean fibre; and cellulose manufactured from sustainably harvested eucalyptus" (Chapman and Gant, 2007, p. 123). This gives insight into what we should be using, and what I can use within my studies from now on and my future as a designer.

Seetal Solanki worked as a textile designer across many sectors, two being fashion and interiors. She introduces the ways of responsible design in '*Why Materials Matter*' and how materials can and should be used more responsibly to change the way we live. She states "The massive potential that materials actually possess and that their designers can offer is still perhaps underappreciated" (Solanki, 2018, p. 8). This suggests that there is a lot of potential for designers to make use of the materials that we have access to already, without creating more damage.



(Figure 1. The Flax chair)

One example that is explored in the text is turning flax into a biodegradable chair. Christien Meindertsma's Flax chair is the result of a collaborate project with Enkev, a natural fibre specialist. Her goal was to make an environmentally friendly, locally made product that is affordable, whilst exploring a new production process. A new composite materials was created using four layers of an existing woven flax textile and five layers of a newly developed dry-needle felted flax. Combined with polylactic acid, a biodegradable plastic, the textile is strong and provides bulk and texture (Meindertsma, 2015).

The creation of animal leather requires the raising of animals, which not only has a negative environmental impact but also an ethical one too. A natural alternative is mushroom leather, Muskin is a new type of leather grown from mushroom mycelium. It is processed using no chemicals in a non-toxic environment, compared to animal leather where many chemicals are used in the colouring process. This means that it is great for products that may come into contact with your skin or face, for example hats. It is softer than animal leather, breathable, water repellent and stops the proliferation of bacteria. The 100% sustainable and biodegradable materials needs only a fraction of the resources that animal leather needs, those being land, water and food. It takes two weeks to grow to the size of a standard cowhide and grows 70-80 times faster than animal leather which takes 3 years on average. It is also important to consider that only 30% of the animals skin would be used and 100% of mushroom leather is used once grown (Kohlbacher, 2021).



(Figure 2. Garments made from Mylo designed by Stella McCartney)

Stella McCartney has been the first designer to design with mushroom leather. She partnered with the company Bolt Threads who launched their own form of vegan leather known as Mylo (Adams, 2021). Mushroom leather is widely used, with some being used in the fashion industry while other companies such as MycoWorks are developing mycelium as a building material and brick substitute (Kohlbacher, 2021). The fact that the material is so versatile, being used in different industries for different things shows how reliable it is and that it is a great invention.

Alice Payne talks about design to minimize environmental impact in her text '*Designing Fashion's Future: Present Practice and Tactics for Sustainable Change*' and specifically mentions fibre types, dyes and finishes. The clothing cycle, from production to usage, is extremely polluting and wasteful. "Textile wastewater is the byproduct of textile dyeing and finishing" (Elfi Yulia, 2021), the wastewater contains pollutants like dyes and high acidity detergents. We need to reduce chemical impacts by "eliminating unsafe chemicals from material and production processes" (Payne, 2021). But the problem not only lies in the production process, it also continues through consumer usage when cleaning. (Chen, 2021) puts forward that the pollution from dyes and fibres are causing all these problems yet the clothing produced are only used for such limited time, it is clearly not worth it.

One alternative that has been created by Intech Digital is digital printing, more specifically Blackjet reactive pigment textile inks are used to provide colouration, rather than a dye (Willis, 2021). Having access to digital printers and using them already in my studies I will now consider using this process as an alternative to traditionally dyeing my fabrics.

The company Textile Pioneers use natural dyes to dye their clothing. Raw materials such as the marigold flower, pomegranate shells and indigo leaves are used within this company (TextilePioneers, 2020). The qualities that natural resources hold shows that they are far more compatible with the environment and around humans. The colours made from natural

resources like marigold are vibrant, biodegradable and non-allergic. The marigold flower is also antibacterial, antifungal, antimicrobial (Harlapur, 2020).

To conclude, the research that has been sourced on the issue surrounding sustainability in the textile industry and its effects on the environment, has increased my knowledge and awareness on the subject and has highlighted approaches and new ways of working that I can start to use now and in my future career.

During the Changemakers module, we were set with the task of making Christmas stocking cloth kits that creates little waste as possible. We used left over fabric that was already in the university, making use of what you have is important instead of buying more. The left over scraps of fabric were used to make the loop handles for the stockings.

Our current live brief involves designing interior elements for the Rolls Royce Phantom series. It has been made clear to us that sustainability is a big priority for the team at Rolls Royce and they try to implement sustainable design into their cars as much as possible.

We aim for sustainability to be embedded into everything that makes us Rolls Royce. We identify and prioritise issues based on the potential impact, as well as considering our ability to influence the issue. The best approach is to integrate sustainable practices into everyday business activities and teams.

(RollsRoyce, 2021)

Careful research has to be done to ensure that my choice of materiality matches the expectations of their sustainable principles. Re-used, recycled and natural resources will be used within my work. I can apply the processes that I have researched. Digital printing will be a heavily relied on process for my work, and I will use this in replace of screen-printing which uses chemical dyes. As mentioned before digital printing uses inks over dyes and is a waterless process, therefore I will be working in a non-toxic environment that also produces little to no water wastage. I am eager to look into and experiment with natural dyes that are available to me such as leaves, flowers, fruits fruit, bark, wood and roots (turmeric and beetroot). These new processes that I have discovered will improve my role as a designer and lead me into a sustainable way of working to help solve the problems in the textile industry.

Bibliography

- Adams, P., 2021. *Stella McCartney Launches Vegan Leather Mushroom Wear*. [Online]
Available at: <https://wholepeople.com/stella-mccartney-launches-vegan-leather-mushroom-wear/>
[Accessed 5 December 2021].
- Anon., n.d. <https://www.pluginandplaytechcenter.com/resources/how-sustainable-dyeing-changing-textile-industr>.
- Chen, X., 2021. Circular Economy and Sustainability of the Clothing and Textile Industry. 3(1), p. 12.
- Elfi Yulia, E. E. E. M. B., 2021. Plant Redesign for pH Neutralization Process of Textile Wastewater Treatment. 794(1), p. 9.
- Fletcher, K., 2014. *Sustainable Fashion and Textiles: Design Journeys*. 2nd ed. s.l.:Routledge.
- Fuad-Luke, A., 2009. *Design Activism: Beautiful Strangeness for a Sustainable World*. 1st ed. s.l.:Routledge.
- Gant, J. C. +. N., 2007. *Designers, Visionaries and Other Stories: A Collection of Sustainable Design Essays*. 1st ed. London: Earthscan.
- Harlapur, e. a., 2020. *Ecofriendly Marigold Dye as Natural Colourant for Fabric*. s.l.:IntechOpen.
- Jonathan Chapman, N. G., 2007. *Designers, Visionaries and Other Stories: A Collection of Sustainable Design Essays*. 1st ed. London: Earthscan.
- Kohlbacher, C., 2021. *Danandmez.com*. [Online]
Available at: <https://danandmez.com/blog/mushroom-leather/>
[Accessed 6 December 2021].
- Meindertsma, C., 2015. *ChristienMeindertsma.com*. [Online]
Available at: <https://christienmeindertsma.com/Flax-Chair>
[Accessed 5 December 2021].
- Mont, O., 2002. Clarifying the concept of product–service system. *Journal of cleaner production*, 10(3), pp. 237-245.
- Payne, A., 2021. *Designing Fashion's Future : Present Practice and Tactics for Sustainable Change*. s.l.:Bloomsbury Publishing USA.
- RollsRoyce, 2021. *Rolls Royce*. [Online]
Available at: <https://www.rolls-royce.com/sustainability/approach.aspx#/>
[Accessed 7 December 2021].
- Solanki, S., 2018. *Why Materials Matter; Responsible Design for a Better World*. 1st ed. s.l.:Prestel.
- TextilePioneers, 2020. *Textile Pioneers*. [Online]
Available at: <https://www.textilepioneers.com/natural-dyes-going-back-to-the-roots/>
[Accessed 6 December 2021].
- Willis, S., 2021. How Sustainable Dyeing is Changing the Textile Industry. 22 March.

List of figures

Figure 1 : Meindertsma, C. (2015) *Flax Chair*. Available at:

<https://christienmeindertsma.com/Flax-Chair> [Accessed: 5th December 2021]

Figure 2: McCartney, S. (2021) *Mylo Garment*. Available at:

<https://futurevworld.com/fashion/stella-mccartney-mushroom-leather-clothing-bolt-threads-mylo-mycelium-vegan/> [Accessed: 5th December 2021]